



GCN CIRCULAR 23689: INTEGRAL observation of IceCube-190104A

Savchenko, V.; Ferrigno, C.; Bozzo, E.; Courvoisier, T.; Kuulkers, E.; Sanchez, C.; Mereghetti, S.; Rodi, James C.; Bazzano, A.; Natalucci, L.

Total number of authors:
29

Publication date:
2019

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):
Savchenko, V., Ferrigno, C., Bozzo, E., Courvoisier, T., Kuulkers, E., Sanchez, C., Mereghetti, S., Rodi, J. C., Bazzano, A., Natalucci, L., Panessa, F., Ubertini, P., Chenevez, J., Brandt, S., Diehl, R., von Kienlin, A., Gotz, D., Laurent, P., Goldwurm, A., ... Sunyaev, R. (2019, Jan 14). GCN CIRCULAR 23689: INTEGRAL observation of IceCube-190104A. <https://gcn.gsfc.nasa.gov/gcn3/23689.gcn3>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

TITLE: GCN CIRCULAR
NUMBER: 23689
SUBJECT: INTEGRAL observation of IceCube-190104A
DATE: 19/01/14 21:34:23 GMT
FROM: Volodymyr Savchenko at ISDC,U of Geneve <savchenk@in2p3.fr>

V. Savchenko, C. Ferrigno, E. Bozzo, T. Courvoisier (ISDC/UniGE, Switzerland)
E. Kuulkers (ESTEC/ESA, The Netherlands)
C. Sanchez (ESAC/ESA, Spain)
S. Mereghetti (INAF IASF-Milano, Italy)
J. Rodi, A. Bazzano, L. Natalucci, F. Panessa, P. Ubertini (IAPS-Roma, Italy)
J. Chenevez, S. Brandt (DTU, Denmark)
R. Diehl, A. von Kienlin (MPE, Germany)
D. Gotz, Ph. Laurent, A. Goldwurm (DRF/Irfu/DAP Saclay/CEA, France)
A. Coleiro (APC, France)
L. Hanlon, A. Martin-Carrillo (UCD, Ireland)
J.-P. Roques, E. Jourdain, P. von Ballmoos (IRAP, France)
A. D. Garau, M. M. Hesse (CSIC-INTA, Spain)
A. Lutovinov, R. Sunyaev (IKI, Russia)
Â

Using INTEGRAL we have performed a search for a prompt gamma-ray counterpart of the cosmic neutrino candidate IceCube-190104A (GCN 23605).

Â

At the time of the event (2019-01-04 08:34:38 UTC, hereafter T0), INTEGRAL was operating in nominal mode. The peak of the neutrino localization probability was at an angle of 92 deg with respect to the spacecraft pointing axis. This orientation implies strongly suppressed response of IBIS and near-optimal response of SPI-ACS.

Â

The background within +/-300 seconds around the event was very stable.Â We do not detect any significant counterparts and estimate a 3-sigma upper limit on the 75-2000 keV fluence of 2.1×10^{-7} erg/cm² for a burst lasting less than 1 s with a characteristic short GRB spectrum (an exponentially cut off power law with $\alpha=-0.5$ and $E_p=600$ keV) occurring at any time in the interval within 300 s around T0.

Â

For a typical long GRB spectrum (Band function with $\alpha=-1$, $\beta=-2.5$, and $E_p=300$ keV), the derived peak flux upper limit is $\sim 2.4 \times 10^{-7}$ (7.4×10^{-7}) erg/cm²/s at 1 s (8 s) time scale in 75-2000 keV energy range.